

### REMARKS

This communication is in response to the Office Action mailed May 22, 2003. Claims 3, 4, 6, 7 and 9-12 are pending in this application, with claims 3, 4 and 12 being the only independent claims and claim 12 being a new claim. No new matter was added. Reconsideration of the outstanding rejections in view of the amendments and arguments presented herein is respectfully requested.

The Examiner rejected claims 3-11 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. He mentioned certain instances of indefiniteness in connection with claims 4 and 5. Claim 5 has been canceled and claim 4 has been amended, and thereby, the rejection was overcome.

In addition, the Examiner rejected claims 3-11 under 35 U.S.C. 102(b) as being anticipated by Goldberg et al., US 5,651,019 ("Goldberg"). The Examiner also rejected claims 8-11 under 35 U.S.C. 103(a) as being obvious over Goldberg view of Spinelli et al., US 6,526,073 ("Spinelli").

Applicants respectfully traverse the Examiner's rejection of claims 3-11 as being anticipated by Goldberg. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The present claimed invention utilizes a method and apparatus for providing frequency-converted laser radiation of enhanced power stability and minimum degradation by predetermining a beam path direction of a frequency conversion crystal. The crystal is arranged in an optical cavity of a laser apparatus such that said crystal is passed by the radiation only in the determined beam path direction.

In contrast, Goldberg discloses an arrangement for a unidirectional ring cavity without employing a prism to minimize the overall number of optical elements and without appreciating any beam path direction. Goldberg's arrangement requires more optical elements and is, accordingly, more complex. An optical diode 26 determines the beam direction inside the

ring cavity, but Goldberg neither describes nor suggests a defined direction of a crystal in relation to the beam direction which results from the ring cavity and the optical diode 26. Utilizing a unidirectional ring cavity, is therefore known from Goldberg, but the present invention differs from Goldberg in that the conversion crystal 5 is positioned in a certain relation to the cavity. The contribution of the present invention is to arrange the crystal in relation to the beam direction (inside the cavity) in such a way that a minimum of degradation is resulting. In the embodiment of Fig. 1 there exist two possible positions for the crystal 5, i.e. 0° or 180°. In one case there occurs degradation (due, for example, to backscatter) and in the other case there occurs no (unwanted) degradation. By rotating the crystal 5 around a symmetry axis, perpendicular to the beam direction, the effect of degradation can be canceled out. Any consideration of beam direction, let alone determining a preferred beam direction is not disclosed or suggested in Goldberg, as found in independent claims 3, 4 and 12 and, accordingly, claims 3, 4 and 12 are distinguishable over Goldberg. Accordingly, Goldberg fails to read on every element as found in the claims discussed above applicants request that the rejection under 35 U.S.C. §102(b) be withdrawn.

Dependent claims 6, 7, 9, 10, and 11 contain similar limitations to those discussed above with respect to claim 4. Therefore, claims 6, 7, 9 and 11 are distinguishable over the art of record for at least the same reason provided above with respect to claim 4.

Concerning the examiner's obviousness rejection over Goldberg in view of Spinelli concerning claims 8-11, it is also submitted that the rejection should be withdrawn in view of the amended claims. Spinelli describes a linear laser cavity with an intra-cavity doubling crystal 74. The prism 70 is used to select a wavelength of an argon plasma tube 66 with the use of the dispersion of the prism 70. In Spinelli, the dispersion is a desired property to select the laser wavelength, whereas in contrast to the present invention, a prism is used to close a ring cavity with a reduced number of optical elements.

In Fig 6. of Spinelli a traveling wave ring-resonator 82 is driven (via mirror 84) by a piezo electric driver. Due to the movement of the mirror 84, the geometry of the ring resonator 82 is not retained in contrast to the piezo electric driven prism of the present invention, where the beam geometry inside the ring cavity is not changed by moving the prism.

The secondary reference cited by the Examiner, Spinelli, does not cure the deficiencies of Goldberg, and thus, the combination of the two references does not render the claims obvious.

In order to properly combine prior art references to demonstrate obviousness of an invention, there must be some teaching, suggestion or incentive to make such a combination. As the Court of Appeals for the Federal Circuit has held:

"It is insufficient that the prior art disclosed the components of the potential device, either separately or used in other combinations; there must be some teaching, suggestion or incentive to make the combination made by the invention."

Northern Telecom Inc. v. Datapoint Corp., 908 F.2d 931, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990); In Re Bond, 910 F.2d 831, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). In combining references, the Examiner cannot

"simply pick and choose among the elements of assorted" prior art disclosures; rather there must be some teaching or suggestion in the references to suggest the use in the particular claimed combination."

Smith Kline Diagnostics, Inc. v. Helena Labs. Corp., 958 F.2d 878, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988). See also, In re Fine, 837 F.2d 1071, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); W.L. Gore & Assoc., Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 311 (Fed. Cir. 1983).

Furthermore, in rejecting the claims, the Examiner improperly pieced together the invention as claimed from the cited prior art using applicants' disclosure of the claimed invention as a template for suggesting to combine various individual elements of the prior art references. Other than applicants' disclosure, there is no suggestion that the references should be so picked apart and combined. The Federal Circuit has repeatedly held that such hindsight reconstruction is impermissible. In Texas Instruments Inc. v. ITC, 988 F.2d 1165, 26 USPQ2d 1018, 1029 (Fed. Cir. 1993), the Federal Circuit held:

"Moreover, we agree with the Commission that the references in combination do not suggest the invention as a whole claimed in the ... patent. Absent such suggestion to combine the references, respondents can do no more than piece the invention together using the patented invention as a template. Such hindsight reasoning is impermissible."

See also, Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434, 1438 (Fed. Cir. 1985) ("it is impermissible to use the claims as a frame and the prior art references as a mosaic to

piece together a facsimile of the claimed invention", citing W.L. Gore & Assoc., Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 312 (Fed. Cir. 1983)). It is respectfully submitted that the Examiner has engaged in precisely such hindsight piecing together of the claimed invention from the cited prior art. As the CAFC has held, one "cannot pick and choose among individual parts of assorted prior art references as a mosaic to recreate a facsimile of the claimed invention." Akzo N.V. v. ITC, 808 F.2d 1471, 1 U.S.P.Q.2d 1241, 1246 (Fed. Cir. 1986). It is respectfully submitted that the Examiner has improperly recreated just such a facsimile.

Claims 9, 10 and 11 depend from independent (amended) claim 4 and thus they are patentable for the same reasons claim 4 is patentable. Applicants submit that the application is now in condition for allowance and passage to issuance is requested.

Applicants submit that the amendments to the claims do not require any further search and/or consideration and thus should be entered of record. For the foregoing reasons, applicants submit that the amendments to the claims do not require any further search and/or consideration and request that they be entered of record.

It is believed that no fees are necessary in connection with this matter. If additional fees are required, authorization is hereby provided to charge our U.S. Patent and Trademark Deposit Account No. 14-1263.

Respectfully submitted,



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**AUG 20 2003**

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Reply to Office Action of May 22, 2003  
USSN: 09/765,226

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